Review and Analysis

STI/HIV Prevention Activities Targeting High Risk Groups in Zambia

Prepared for Family Health International/IMPACT Project
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A Background

1 Overview of Zambia

1.1 Country

1.1.1 Zambia is a landlocked Southern African country, inhabited by 73 distinct ethnolinguistic groups, covering 752,614 square kilometres, surrounded by eight countries: Congo and Tanzania to the north, Malawi and Mozambique to the east, Zimbabwe and Zambia to the south and Namibia and Angola to the west. It has 9 administrative provinces - Central, Copperbelt, Eastern, Luapula, Lusaka, Northern, North Western, Southern Province and Western - which are further divided into 72 administrative districts (Ministry of Health/Central Board of Health, 1998).

1.1.2 Zambia's estimated population of 9.7 million is sparse relative to its size, but its annual growth of 3.9% is rapid. Zambia's population is young, 47% being under age 15 and childbearing begins early - 60% of Zambian women have children or are pregnant by age 19. With 48% of its population in towns, Zambia is one of Africa's most urbanized countries. Its population is unevenly distributed, with densities over 45 per square kilometre in Copperbelt and Lusaka provinces and below six in Northern, North Western and Western provinces. The key factor influencing demographic and development trends is the railway running from Livingstone on the Zimbabwe border, through Lusaka and the Copperbelt, to Kasambalesa on the Congo border. Over 50% of Zambia's population and 80% of its productive investment is concentrated along the railway corridor. Elsewhere, people converge alongside rivers and lakes (Zambia, 1996).

1.2 Economy

1.2.1 Zambia's economy is mixed, with a modern urban sector along the central Livingstone-Kasambalesa corridor and a rural subsistence agricultural sector. Copper contributes 95% of export earnings and 45% of government revenue. After economic growth in the 1960s and 1970s, Zambia experienced severe economic contraction. From 1980 to 1993, per capita income declined by 3.1% annually, reaching US$300 in 1998. Real government health expenditure declined by 41% from 1970 to 1984. In the absence of increased revenues, health services remain reliant on unsustainable external grant or loan funds (Economist Economic Review, 1997).

1.3 Health needs and services

1.3.1 Zambia's greatest health challenges are child survival, reproductive disease burden and malaria (Ministry of Health/Central Board of Health, 1998). With infant and child mortality rates of 108 and 197, one in 10 children die before age

one and one in five die before age five. In Luapula and Northern provinces, one in four children die before age five. Infant and child mortality increased from 92 and 161 in 1977 to 108 and 197, respectively, in 1997 (Zambia, 1996). The major causes of ill health among Zambian women arise from their reproductive roles, with maternal mortality, HIV and sexually transmitted infection contributing over half of disease burden. Maternal mortality in Zambia is increasing: current estimates range from 649 (1996 DHS) to 940 (WHO) per 100,000, but UNFPA estimates rates of 1,400 in rural provinces, including Eastern, Luapula, Northern and Western provinces. Zambia's HIV epidemic, analyzed below, is among the world's severest.

1.3.2 In 1991, Zambia embarked upon sweeping health reforms, which seek "to provide equity of access of every Zambian to cost-effective quality health care as close to the family as possible." The major strategy is to devolve management responsibilities to districts, represented by autonomous District Health Boards and District Health Management Teams. Districts develop health plans, based on the Zambia Essential Health Care Package, which attempts to address 80% of the causes of disease burden through a package of priority health interventions. These strategies are reinforced by a sector-wide coordinated approach with pooled "basket" funding to support district health plans, the formation of a Central Board of Health responsible for the technical management of health services, the transfer of health personnel from the civil service to autonomous health boards and increased community involvement through neighbourhood health committees (Ministry of Health/Central Board of Health, 1998). The health reforms are currently delayed, pending resolution of concerns over de-linkage and other issues.

1.4 HIV/AIDS epidemiology

1.4.1 Zambia's HIV epidemiology is based on sentinel surveillance of antenatal women and population-based surveys.

1.4.2 Sentinel surveillance began in isolated sites in 1990 and was expanded to 22 sites in 1994, the most recent completed survey. A sentinel survey was conducted in 1998, with results expected by March, 1999. The 1994 survey revealed the prevalences described in the table below:

Town	HIV prevalence (1994)
Livingstone	31.9%
Chipata	30.3%
Kabwe	29.5%
Mongu	29.4%
Ndola	27.5%
Lusaka	24.5%
Solwezi	24.2%
Kamuchanga	23.1%
Kasama	22%
Samfya	20%
Chilonga	16.8%
Kashikishi	14.6%
Kapiri	13%
Mporokoso	12.9%
Kasaba	12%
Ibenga	11.4%
Isoka	11.4%
Kalabo	10.2%
Mukinge	9.8%
Minga	9.6%
Macha	9.1%
Chitokoloki	7.1%
Kabompo	1.6%

(UNAIDS, 1998, US Bureau of the Census, 1997, Ministry of Health/Central Board of Health, 1998.

1.4.3 A population-based survey was conducted to complement sentinel surveillance in selected urban and rural areas in 1995-96. Lusaka's population-based prevalence was 26%, compared with a sentinel prevalence of 24.6%. The data showed that sentinel surveys overestimated HIV prevalence among women under 19 and underestimated it among women above 30, resulting in a slight overall underestimate (Ministry of Health/Central Board of Health, 1998).

1.4.4 A Ministry of Health Expert Group estimated that provincial adult HIV prevalence is 26.5% in Lusaka, 23.4% in Copperbelt, 22.8% in Luapula, 20.8% in Central, 18.9% in Northern, 17.5% in Western, 16.8% in Southern, 14.7% in Eastern and 11% in North Western provinces. National adult HIV prevalence is estimated to be 19.9%, which means that 950,000 adults and 70,000 children

have HIV. HIV rates are twice as high in urban areas as rural areas (Ministry of Health/Central Board of Health, 1997).

1.4.5 An estimated 100,000 Zambians currently have HIV disease and 600,000 have died of AIDS. Since AIDS occurred in Zambia, TB has increased fivefold, from 100 to 500 per 100,000, resulting in almost 50,000 cases in 1998 (Ministry of Health/Central Board of Health, 1997).

1.4.6 AIDS has far-reaching socioeconomic consequences. It accounts for an estimated half of Zambian mortality and approximately 80% of mortality among adults aged 25 to 45. Projected life expectancy by 2010 may decline from 66 to 33 in Zambia, 61 to 35 in Tanzania and 57 to 33 in Malawi (UNAIDS, 1998, US Bureau of the Census, 1997).

1.4.7 If the 1980s were the decade of HIV infection and the 1990s are the decade of AIDS, the 2000s will be an era of orphanhood. By 2000, Sub-Saharan Africa will have 10 million AIDS orphans, 90% of the global total. The proportion of orphans in Zambia may peak 15 to 20 years into the epidemic, between 2000 and 2005, when it may exceed 800,000 orphans, or a third of all children under 15 (Ministry of Health/Central Board of Health, 1998).

1.4.8 The economic costs of AIDS may be divided into direct costs, specifically health care, and indirect costs, including labour, production and capital formation. Direct costs are clearly identifiable. Adults with AIDS experience an average of nine severe bouts of illness and require approximately 40 days hospitalization. Up to 40% of hospital bed occupancy is HIV-related. If all AIDS patients were treated in the formal health service, AIDS care costs would exceed half of Zambia's recurrent health budget. The indirect care costs are far harder to quantify, but may be analyzed in two broad categories: production and earnings; and second, savings and investment. Concerning production and earnings, Zambian employee mortality increased by 900%, from 0.2% in 1987 to 2.4% in 1993 Baggely et al (1994). In Chilanga Cement, hours lost to illness and funerals increased threefold from 13,380 hours in 1992/93 to 43,370 hours in 1994/95. At Indeni Refinery, AIDS costs doubled from 1991 to 1993 and exceeded profits by 1996. Regarding savings, AIDS may severely depress savings and investment. A Zambian estimate suggests that AIDS may reduce Zambia's per capita GDP by 4% by 2000
(Ministry of Health/Central Board of Health, 1997).

1.4.9 Household impacts are even greater. AIDS illness and death consumes 200-400% of annual household income, impoverishing household savings. In Malawi in 1996, because of household labour loss, the crop took twice as long to harvest as a decade ago. Farmers are thus sowing less seed and focusing on low labour input crops. In east Africa, there is increasing cultivation of cassava, which requires little labour, but is nutritionally deficient. By 1995, 40% of households in Zambia had at least one orphan and over 80% experienced economic difficulty supporting an orphan (Webb, 1995, 1996).

1.5 STI epidemiology

1.5.1 STI are not well characterized in Zambia. The number of reported STD cases rose from 190,344 in 1981 to 307,957 in 1992, the last year for which data are available. In 1992, over half of STD cases occurred in two provinces: Lusaka (34.6%) and Copperbelt (18.3%).

1.5.2 The World Health Organization estimated that, in 1995, 1,079,000 STD cases occurred, including 500,000 trichomonas cases, 260,000 chlamydia cases, 260,000 gonorrhoea cases and 59,000 syphilis cases.

1.5.3 In community surveys, up to 10% of men report having had an STD in the past year (Zambia, 1996). In a survey of 66,000 pregnant women screened in 1997 in five districts - Chipata, Kitwe, Livingstone, Lusaka and Ndola - 10 to 15%, with a mean of 12%, had syphilis (UNICEF, 1998).

1.5.4 While data are extremely limited, sexually transmitted infections remain a major public health problem in Zambia.

1.6 Zambia's AIDS response

1.6.1 Zambia's AIDS response began with the Short Term Plan (STP: 1986-87) for blood safety.

1.6.2 The First Medium Term Plan (MTP I: 1988-1992) focused on ensuring blood safety, promoting awareness and AIDS knowledge, establishing HIV counseling services, developing clinical AIDS management guidelines and minimizing stigma. Zambia was among the first countries in Africa to recognize and respond to AIDS. In contrast to North America and Europe, where community organizations led AIDS responses, in Zambia, as elsewhere in Africa, the government led the response and successfully instilled widespread awareness and factual knowledge. However, neither effective STD services nor condoms were widely accessible. Increased AIDS awareness and knowledge was not translated into safer sexual behaviour. The campaigns did not challenge the different sectors of society to define their own initiatives, assume responsibility and leadership and develop their own social norms in support of safer sexual behaviour.

1.6.3 The Second Medium Term Plan (MTP II: 1994-1998 represented a major step forward. To ensure a coordinated, rationalized response, the AIDS, STD and TB programmes were integrated. The integrated programme sought to foster political commitment at the highest level, develop inter-sectoral approaches, encompassing all government ministries, the private sector and civil society, fully involve people with AIDS, increase access to STD care, strengthen condom promotion and distribution, control TB and develop effective AIDS impact mitigation strategies. Zambia's multi-sectoral approach was lauded.

1.6.4 Since 1996, the government has sought to harmonise AIDS responses with the health reforms, which seek to streamline and integrate vertical programmes within the Central Board of Health and to emphasize consolidated district level capacity building.

1.6.5 Significantly, there was little emphasis on targeted high risk group interventions in the first or second medium term plans, an omission now recognized in several recent Central Board of Health papers (e.g. Review of Monitoring and Evaluation) cited in the references. For example, the October 1998 Review of Zambia's Country Experiences emphasizes the need for targeted approaches. A review of STD control and prevention in Zambia in June, 1998, concluded that: "One gap that seemed obvious was the lack of projects working with certain target groups...Target groups such as CSW and truck drivers need to be promoted and supported" (Family Health International (1998).

1.7 Rationale for targeted high risk group interventions

1.7.1 Introduction

1.7.1.1 The rationale for targeted high risk group interventions is based upon the related concepts of reproductive rate and priority groups.

1.7.2 Reproductive rate

1.7.2.1 To understand how an infection, including STD or HIV, spreads, one must understand its reproductive rate, R_0 for short (May & Anderson, 1987, 1988). The reproductive rate, R_0, is the number of new infections that arise from one infection. Reproductive rate is determined by the following formula:

$$R_0 = D \times B \times C$$

where
R_0 = the reproductive rate
D = the duration, or period, of infectiousness
B = the transmissibility, or transmission probability, of infection
C = the rate and pattern of partner change

1.7.2.2 Thus, the reproductive rate, or number of new infections generated, is determined by the duration of infectiousness, the transmissibility of the infection and the rate and pattern of partner change.

1.7.2.3 If the reproductive rate is > 1, an epidemic will grow. If the reproductive rate is < 1, each infection will not replace itself and the epidemic will decline (Anderson, Ng, Boilly et al, 1990).

1.7.2.4 The purpose of STD and HIV interventions is thus to reduce the reproductive

rate < 1 (Aral, Holmes, Padian et al, 1996). To reduce the reproductive rate of STD, therefore, one may attempt to: shorten duration or period of infectiousness by rapidly and effectively treating patients; decrease transmissibility through several interventions, particularly condom promotion; and decrease rate of partner change, through behavioural interventions. To reduce HIV infection, one may attempt to: reduce transmissibility by treating curable STD, which amplify HIV transmission and by condom promotion; and decrease partner change through behavioural interventions.

1.7.3 Priority groups

1.7.3.1 Closely linked to the reproductive rate of STD and HIV is the concept of priority groups.

1.7.3.2 Many clinicians note that a small subset of clients account for a large proportion of STD presentations (Thomas & Tucker, 1996). In short, individuals may make a highly variable contribution to the reproductive rate, with most propagating few STD cases and a few propagating many STD cases.

1.7.3.3 Yorke and colleagues (Hethcote & Yorke, 1982; Yorke, Hethcote & Nold, 1978) argued that gonorrhea transmission was sustained by small, highly sexually active groups, which they referred to as core groups and which the World Bank refer to as priority groups, who, on average, transmit more than one new infection to others. In epidemiological terms, they argued that the reproductive rate is > 1 in priority groups and 1 or < 1 outside priority groups. Thus, if priority group transmission can be prevented, they argue that the overall reproductive rate will fall < 1 and the epidemic will decline.

1.7.3.4 Because priority groups contribute more to the reproductive rate of STD and HIV, interventions targeting priority groups may prevent far more infections than comparable infections for the wider community. In Nairobi, Moses et al modeled the effects of a targeted sex worker intervention and a general population intervention for low-income men. Among 500 sex workers, with an estimated HIV prevalence of 80% and 4 partners daily, increasing condom use from 10% - 80% prevented an estimated 10,200 HIV infections. In comparison, among 500 low-income men, with an estimated HIV prevalence of 10% and 4 partners annually, increasing condom use from 10% - 80% prevented an estimated 88 HIV infections.

1.7.4 Renewed emphasis on targeted high risk group interventions

1.7.4.1 Mathematical epidemiologists have long recognized the importance of targeted high-risk group interventions. However, at a wider public health or policy level, two recent developments have renewed interest in targeted high-risk group interventions.

1.7.5 Thailand's example

1.7.5.1 The Thai AIDS response has renewed interest in targeted approaches. In 1989, HIV prevalence among sex workers reached 44% in Chiang Mai brothels and ranged from 1% - 5% elsewhere. The Thai government prioritized targeted sex work interventions and pursued a 100% condom use programme in sex establishments. From 1985 to 1993, condom use in commercial sex rose nine-fold, from about 12% to 95%. Over the same period, STD fell by three-quarters, from over 400,000 to approximately 100,000 (Hanenberg et al, 1994). HIV prevalence declined from 4% to 1.9% among military recruits and drug users and antenatal HIV prevalence rates remain under 2% (UNAIDS, 1997). Thailand is the only developing country to have blunted an emerging AIDS epidemic.

1.7.6 World Bank advocacy

1.7.6.1 World Bank reports, culminating in their 1997 publication, Confronting AIDS, have emphasized the need for targeted high-risk group interventions.

1.7.6.2 The World Bank argues that no country has the resources or management capacity to introduce all the AIDS prevention initiatives they wish to. They argue that it is vital to select the prevention strategies that prevent the greatest number of HIV infections for the resources and effort required.

1.7.6.3 In order to identify priorities, the World Bank modeled the effects of the major HIV prevention approaches. They compared five strategies: 75% symptomatic STD treatment in the general population; 20% female condom use in stable relations; 20% male condom use in commercial and casual sex; 90% STD treatment among sex workers; and 90% condom use in sex work. Increasing condom use to 90% among sex workers was by far the most effective strategy in all scenarios.

1.7.6.4 World Bank models suggest that targeted high-risk group interventions are 40 to 200 times more cost-effective than comparable general public interventions. This, in short, means that general public interventions must be 40 to 200 times more economical than comparable targeted interventions before they represent a sound investment.

1.7.6.5 It is often said that high-risk group interventions are effective in an early epidemic when infection is limited to high-risk groups, but ineffective in a mature epidemic, when infection is widely generalized. However, World Bank models indicate that, although high-risk group interventions are most effective in an early epidemic, they remain more effective than general population approaches even in a mature epidemic. This seems counter-intuitive and may warrant elaboration. The essential point is, one's contribution to the HIV epidemic is determined not only by one's likelihood of having HIV, but also one's sexual behaviour once infected. Take the example of a trucker and his

wife. They have an almost equal likelihood of having HIV infection. However, once infected, they have an unequal likelihood of infecting others. The trucker may infect several other partners, which his wife is unlikely to do. Targeted high-risk interventions focus on those who have a high likelihood of being infected and of infecting several other people.

1.7.6.6 It is also asserted that targeted high risk group interventions, particularly for sex workers, have received too much emphasis in AIDS programmes, However, the World Bank surveyed 32 UNAIDS Country Advisors about targeted high risk group interventions in their duty countries. While 90% said their duty countries had sex worker activities, only 30% said their duty country's government funded sex worker activities and they estimated that the coverage of existing sex worker interventions was extremely limited. During the World Bank's 1997 AIDS planning mission to Malawi, some contributors expressed the view that sex worker interventions had been over-emphasized. A subsequent costing indicated that sex worker interventions accounted for less than 1% of AIDS funding.

1.7.6.7 In Zambia, for example, Tasintha estimates that there are at least 4,000 sex workers (the consultant regards this estimate as conservative). They estimate that each sex worker has an average of seven partners a night (The consultant regards this estimate as high - it may be true of highly visible professional sex workers, but many less professional sex workers would have fewer partners). Their data suggest that condoms protect only 20% of commercial sex acts. Tasintha opine that in Zambia, 28,000 commercial sex acts occur nightly, 840,000 monthly and 10,800,000 annually. Thus, they believe that 22,400 unprotected commercial sex acts occur nightly, 672,000 unprotected commercial sex acts occur monthly and 8,640,000 unprotected commercial sex acts occur annually (Matthews and Mulubwa, 1997). These figures are estimates, but the potential for rapid HIV transmission in incontestable, as is the logic that sex worker interventions are an urgent priority.

1.8 Conclusion

1.8.1 The Centers for Disease Control recently concluded that HIV epidemics cannot be controlled without effectively preventing high-risk group transmission, which plays such a critical role in fueling both emerging and mature epidemics.

1.9 Eastern and Southern African targeted high risk group interventions

1.9.1 Introduction

1.9.1.1 Several successful high-risk group interventions, targeting sex workers, truckers and commercial fishermen, have been implemented in Eastern and Southern Africa.

1.9.2 Sex workers

1.9.2.1 Several programmes in Eastern and Southern Africa have targeted sex workers. Tuliza et al established a women's health centre, which provided STD care, health education and condoms to sex workers in Matonge, Kinshasa, Zaire. Over 22 months, regular condom use with clients increased from 4% - 55% and HIV incidence declined from 18% - 2.2%. Ngugi et al (1996) compared condom use among Kenyan sex workers who received individual counseling at clinics (group 1), group counseling at community meetings (group 2), or neither (group 3). Before the programme started, 10%, 9% and 7% of groups 1,2 and 3, respectively had used condoms before. After activities started, 80%, 70% and 58% of groups 1,2 and 3 reported some condom use. Reported condom use was associated with reduced STD and HIV incidence. In Zimbabwe, Dube et al (1996) assisted local partners to develop peer education projects targeting sex workers and clients in 20 sites. From 1987 to 1997, the projects recruited over 1,000 peer educators, held 520,000 meetings, reached 21 million people (including repeat attenders) and distributed 90 million condoms. STD/RPR rates fell by 48% in Bulawayo, 52% in Mutare, 63% in Kariba, 71% in Chitungwiza and 74% in Masvingo. In Welkom's Harmony gold mines, a targeted high risk group project which recruited peer educators to motivate sex workers to take periodic presumptive treatment reduced STD by approximately 50% among both sex workers and miners in nine months (Steen et al 1997).

1.9.3 Truckers

1.9.3.1 Several studies have shown high levels of STD and HIV among truckers in Tanzania, Kenya and Zambia. From 1989, AMREF coordinated a national targeted trucker intervention implemented by a consortium of five partners on Tanzania's major highways. The project recruited truckers and sex workers as peer educators, focusing on truck stops, guesthouses, bars and brothels along trucking routes. By 1992, over 2 million condoms had been distributed. From 1989 to 1992, condom use in casual/commercial sex rose from 21 to 45% among truckers and 19% to 51% among sex workers (Mwizarubi et al, 1994).

In Zimbabwe, the National Employment Council for the Transport Operating Industry launched a peer education project on Zimbabwe's major trucking highways.

In South Africa, the Mpumalanga Provincial Health Department has launched a trucker intervention on the N4 corridor from Johannesburg to Maputo, Africa's busiest trans-national highway.

In Zambia, World Vision launched a trucker project based on their experience as partners in the Tanzania consortium, which is discussed below.

1.9.4 Fishermen

1.9.4.1 The mobility of fishermen and fish traders and the frequent exchange of fish or transport for sex frequently links fishing communities to high HIV transmission. Tanesa support a peer education project centered around Igombe fishing community in Mwazna District on Lake Victoria. In Zimbabwe, an intervention targets fishermen on Lake Kariba's southern shore. From 1991 to 1998, the project recruited 30 peer educators, held 25,356 community meetings, reached 786,438 people and distributed 5,793,361 condoms. Condom use in commercial sex rose from 46% in 1990 to 66% in 1992. RPR rates at antenatal clinic declined by 63%. In Zambia, Nchelenge District have developed a fishing camp intervention which is described below (Nchelenge District, 1998).

B Purpose and Methods of Review

1 Purpose

1.1 The international emphasis on targeted high-risk group interventions is matched by Zambia's own recognition that such interventions must be intensified. This acknowledgment is expressed in Central Board of Health strategic meetings and documents. Zambia's AIDS programme manager has also identified strengthened targeted high-risk group interventions as an urgent priority.

1.2 During a recent technical support visit to Zambia, FHI/IMPACT Project concluded that it was an opportune time to review targeted high-risk group interventions in Zambia, in preparation for USAID's post ZHIP strategic planning exercise, in January, 1999.

1.3 Accordingly, Professor David Wilson was contracted by Family Health International/USAID to review and analyze existing targeted high risk group interventions in Zambia and to suggest possible options for future targeted high risk group programming.

2 Methods

2.1 The review was based upon a literature review, depth interviews, site visits and participant and target group interviews.

2.2 Literature review

2.2.1 The literature review included: a preliminary literature review undertaken in Zimbabwe; Zambia social sector and health analyses and indicators, Zambia reproductive health, HIV and STD epidemiology, Zambia Ministry of Health/Central Board of Health action plans, donor situation analyses, action plans, contracts, training materials and reports, district and NGO plans, reports, training materials and evaluations.

2.3 Depth interviews

2.3.1 Depth interviews were conducted with Ministry of Health/Central Board of Health personnel; Lusaka Urban District Health personnel in Kanyama, George, Matero and Chipata; multilateral agencies, including WHO, UNAIDS, UNDP, UNFPA and UNICEF; bilateral agencies, including DFID, NORAD, SIDA and USAID; international PVOs, including the Futures Group, JSI, PCI, Population Council, PSI and World Vision; Zambian NGOs, including CHEP, HRT and Tasintha; University of Zambia staff, targeted intervention project coordinators, assistant coordinators, group leaders, peer educators and target group members. The depth interviews utilized appropriate items from the interview guide in Section I.

2.4 Site visits

2.4.1 Site visits were made to international PVOs and Zambian NGOs, district health facilities, targeted intervention project sites, peer education training meetings and target group sites.

2.5 Participant and target group focus groups

2.5.1 Focus groups were conducted with project managers, coordinators, assistant coordinators, group leaders, peer educators and target group members.

C Profile of Targeted High Risk Groups in Zambia

1 Introduction

1.1 Both epidemiological and socio-cultural analyses assist us to develop a profile of high-risk groups in Zambia. There have been individual project reports, largely in the Grey Literature, but no comprehensive, cross-cutting reviews of targetted high-risk group interventions.

1.2 Epidemiological analysis

1.2.1 Zambia's HIV epidemiology may best be analyzed with reference to cities, towns and rural areas. Antenatal seroprevalence rates in Zambia's largest city, Lusaka are 24.5%. However, seroprevelance rates are considerably higher in smaller towns that are on highways, near borders or peri-urban centres amidst poor rural hinterlands. For example, Zambia's highest HIV prevalence of 31.9% is observed in Livingstone, a major tourist, trucker, railway and cross border trading town situated in a poor and arid region of Southern Province. Zambia's second highest rates are observed in Chipata, another trucking, and cross border trading town situated on the Zimbabwe border in an equally poor area of Eastern Province. No data are available for Zambia's largest border post,

Chirundu, which would have extremely high prevalence rates, judging by the number of AIDS patients at Chirundu's Mutendere Mission Hospital or for Zambia's second largest border post, at Kasambalesa on the Congo border. Zambia's third highest prevalence of 29.5% is observed in Kabwe, a major trucking, railway and trading town, with a declining mining sector, in Central Province. The fourth highest prevalence of 28.4% is reported in Mongu, the capital of Western Province, a major trading, transit and fishing centre in an isolated and impoverished area. The fifth highest rates are reported in Ndola (27.5%), a mining, trading and trucking town on the road and rail corridor to the Congo. Significantly Lusaka, with 24.5% seropositivity, has the sixth highest rate. These data clearly show that trucking, transit, trading and border towns in poor rural areas are at greatest risk. They illustrate the juxtaposing of mobile, migratory men with some disposable money and very low-income rural women, who are the poorest constituency in Zambia and have little choice but to exchange sex for gifts, food or money. In contrast, in more isolated rural areas, away from major highways and trading centres, rates are generally lower, less than half those observed in trucking, transit, trading and border towns. A significant exception is Luapula Province, which is estimated to have Zambia's third highest HIV prevalence (22.8%), after Lusaka (26.5%) and Copperbelt (23.4%) Provinces. The Luapula's vulnerability is due to entrenched out-migration to the Copperbelt and elsewhere and to the risks associated with commercial fishing, in the Luapula's populous lake basins.

1.2.2 To reinforce this analysis, we turn to neighbouring countries. In Zimbabwe, the highest antenatal HIV prevalence is 70% in the migrant labour economy of Chiredzi, followed by 67% in Rusape, a trucking town on the road from Harare to Beira, 61% in Masvingo, a trucking town on the highway to Beitbridge and Johannesburg, 60% in the border town of Beitbridge and 47% in Victoria Falls, next to Livingstone. Botswana's highest rates are in the trading town of Kweneng (43.8%) and the trucking, rail, trading and border town of Francistown (43.1%). In Namibia, the highest rates are in Katimo Mulilo (24.2%) bordering Shesheke in Zambia on the Caprivi and Oshakati (22.4%), a trucking and trading town on the northern highway. In Mozambique, rates are under 3% in the capital, Maputo, but 22% in Chimoio on the trucking and rail corridor to Beira and 16% in Tete on the trucking corridor to Malawi. In South Africa, the highest rates in many provinces reflect male mobility and migrancy and female poverty. The highest rates in Gauteng Province (22.5%) are in the goldmines, where over 100,000 migrant workers live. In Kwazulu-Natal, the highest rates are in the sugar plantation, trucking and rail town of Empangeni. In Mpumalanga, the highest rates are in the Eastern Highveld, on the trucking and rail routes to Swaziland and the coast.

1.2.3 These data provide the strongest possible epidemiological argument for targeting border towns, towns on trucking and rail routes and provincial towns that serve as a magnet for poor rural areas, particularly fish trading communities.

1.3 Socio-cultural analysis

1.3.1 This epidemiological argument is reinforced by socio-cultural arguments.

1.3.2 It is significant that HIV rates are highest in towns on or near major highways, plantations, fishing basins and other migrancy centres. The optimal context for HIV transmission is one where men have some disposable money, are away from families and are surrounded by low-income communities comprising disproportionate numbers of women. Such men are likely to seek commercial sex and many women have little alternative but to provide it. Thus, the most HIV-vulnerable men are truckers, traders, migrant and seasonal workers and the most HIV-vulnerable women include low-income women with little economic alternatives but to trade sex for food, gifts or money.

Contexts Conducive to HIV Transmission

The optimal context for HIV transmission is where men

- have money
- are away from families and
- are surrounded by low-income communities

Most HIV-vulnerable groups

Men	Women
Truckers Migrant and seasonal workers Fishermen and fish traders	Women who have little economic alternative, but to exchange sex for food, gifts or money

1.3.3 Thus, the profile of male vulnerability is largely defined by separation from families, mobility, migrancy and some disposable income. Truckers and commercial fishermen fit each of these sociological criteria. Behavioural data also confirm very high rates of partner change among these groups of men. In contrast, poverty and reliance upon sex for survival largely define the profile of female vulnerability.

1.4 Conclusions

1.4.1 Sex workers and their clients, truckers and commercial fishermen and fish traders are clearly top priority target groups. Next in priority are other groups of mobile men with disposable income, including the uniformed services and migrant agricultural workers. However, several studies suggest that these groups have fewer sexual partners than truckers, commercial fishermen or sex workers. In any case, in view of Zambia's size and infrastructure deficiencies and

the limited focus on high-risk groups to date, it is strongly advisable to address top priority groups comprehensively, before the scope is widened.

D Existing targeted high risk group activities

1 Overview

1.1 High-risk group activities in Zambia may be divided into research and intervention activities. Research activities may be divided into biomedical and socio-behavioural. Intervention activities may be divided into targeted high-risk group interventions; and integrated community interventions with high-risk group components.

2 Research

2.1 Introduction

2.1.1 The Ministry of Health 1996 Annotated Review of research on HIV/AIDS in Zambia contains only three studies referring to high-risk groups. Each study refers only fleetingly to high-risk groups, in the context of broader community research. However, the consultant was able to find several studies in progress or reported only in the gray literature.

2.2 Biomedical

2.2.1 Three biomedical studies partly involving sex workers are underway. As part of a broader survey, Dr Matondo of the University Teaching Hospital is gathering STI/HIV data among Lusaka sex workers, which will be available in 1999. Similarly, Dr Masunda, of the Tropical Disease Research Centre in Ndola is collecting STI/HIV data among Copperbelt sex workers, which will be available in 1999. These data constitute the first STI/HIV data for Zambian sex workers.

2.2.2 The Horizons project is conducting a randomized trial to compare general population and targeted sex worker interventions in South Africa, Zimbabwe and Zambia. In Zambia, the study is being implemented in conjunction with the University of Zambia. The study focuses on sex workers and farmers in agricultural estates. The incremental effectiveness and cost effectiveness of three different intervention levels are being compared. The first level encompasses general community syndromic STD management, behavioral change communication and condom promotion. The second level incorporates the first level and adds a peer education component targeting sex workers and their partners, with behaviour change communication and condom promotion. The third intervention level incorporates the first and second levels and adds targeted monthly epidemiological treatment of curable STDs among sex workers. The first descriptive STD data will be available by July, 1999 and the first impact data by September, 1999.

2.2.3 These studies will provide valuable information on the burden and etiology of STD among Zambian sex workers.

2.3 Sociobehavioural

2.3.1 The consultant identified eight sociobehavioural studies involving high-risk groups, including four sex worker studies, two fishing community studies and one trucker study.

2.3.2 In 1989, Dr Sikeleti of the University of Zambia, supported by NORAD, conducted a study entitled: "Prostitution in Zambia." He interviewed sex workers at several sites, including taverns, nightclubs and streets, in Lusaka and reported that knowledge and concern about AIDS was limited. He concluded sex workers were identifiable, approachable and of considerable importance in HIV transmission in Lusaka.

2.3.3 In 1995/96, Dr Nzima, then with Morehouse School of Medicine, conducted an in-depth, mixed method, part quantitative, part qualitative survey of 100 sex workers in Lusaka. The study has not been written up, but the consultant was able to review the original interview transcripts, which were of very high quality. The interviews indicate that there are 50-100 sites in Lusaka where explicit, professional sex work occurs. These sites include highways, streets outside international hotels, bars in other hotels, taverns and nightclubs. They also show that deepening poverty has led to a growth in explicit, professional sex work in Lusaka. Finally, the interviews indicate a considerable burden of STD among Lusaka sex workers. This study should be completed and written up, as it would be a valuable contribution to the understanding of sex work and targeted intervention strategies in Zambia.

2.3.4 In 1996/97, Tasintha, supported by the Netherlands Government, conducted a sociobehavioural study of sex work in Lusaka and Chirundu. Based on the figures obtained in Lusaka and Chirundu, Tasintha estimate that there are at least 4,000 full-time, explicit, professional sex workers in Zambia. Their data suggest that professional sex workers have an average of seven partners a night. Disturbingly, condoms protected only 20% of commercial sex acts.

2.3.5 From 1993 to 1998, Dr Kathuria of the University of Zambia has conducted community assessments in low-income compounds, which include information on sex workers. These assessments have been partly written up, in project reports. She concludes that sex work in compounds is often ill defined and discrete, concealed behind many gradations of girlfriend relationships. In order to reach discrete sex workers, vigorous snowballing is required. In snowballing, one asks open sex workers to introduce discrete sex workers, who in turn introduce other, more discrete sex workers, until the majority of sex workers have been reached. In addition, the subtlety of much sex work, emphasizes the

need for client peer education, to reach accessible, well-defined male groups, as well as ill-delineated sex workers. To the extent that explicit sex work occurs, taverns are an important focus for commercial sex. The feasibility of bar-based sex worker and client education, with the support of bar managers, was verified. Vaginal intercourse is uniform and condom use is infrequently reported. Clients had less positive attitudes towards condoms than did sex workers. Client refusal was the major reason sex workers cited for not using condoms.

Public, private and informal providers inadequately manage STDs,, which results in high levels of unsuccessful treatment and long duration of STD infection.

2.3.6 In 1997/98, PSI included sex workers in a study of perceptions of the female condom and found positive responses among sex workers.

2.3.7 World Vision/Zambia (1997) conducted a baseline assessment to identify and characterize risk activity on the Kapiri-Mposhi - Nakonde highway to Tanzania. Although the research report was not available key results were presented by project staff and are also contained in project progress reports. The results indicate that an average of 30 truckers daily use the highway (far more use the Chirundu, Livingstone and Copperbelt highways), are away from home for long periods and have up to 60 sexual partners a month, with similar figures being reported on the Tanzanian and Zambian sectors of the Lusaka-Dar es Salaam highway.

2.3.8 In 1991, Dr Mushingeh of the University of Zambia, commissioned by the Population Council, completed a 190 page ethnography entitled: "An investigation of high-risk situations and developments and their potential role in the transmission of HIV: the case of the Copperbelt and Luapula provinces" (Musingeh et al, 1991). This excellent ethnography, based on interviews with 500 respondents from Lupiya, Mnuunga, Kashikishi, Mwansabombwe and Kashiba fishing villages drew attention to the critical role of commercial fishing and fish trading in the propagation of HIV. He showed how closely commercial and casual sex were interwoven with fish trading. Many fishermen left their wives in their rural homes and lived alone or with second wives. Female fish traders exchanged sexual favours for preferential road and lake transport to and from fishing camps. Fishermen frequently required sexual favours from female fish traders before selling fish. Fishermen lived in rudimentary and unsanitary conditions, enlivened by alcohol and sex. They prized perfumed "city women" in smart dresses. STDs were common, but fishermen were far more concerned about malaria and cholera than HIV. There were close links between the Luapula, where fish were caught and the Copperbelt, where fish were sold. Mushingeh concluded that the fish trade fueled HIV transmission in both the Copperbelt and the Luapula. Mushingeh's work prompted recognition of the importance of interventions targeting fishing communities. The previous National AIDS Programme Manager, Dr Msiska, developed a fishing camp intervention, to be supported by WHO and implemented by the Zambian

Federation of Cooperatives. However, funding was delayed and the Zambian Federation of Cooperatives has been dissolved.

2.3.9 In 1995/96, Dr Msiska, with funding from NORAD, conducted a formative research study in the Luapula fishing camps. A summary report was produced, which NORAD could not immediately provide, because older registry documents had been archived. However, a copy will be retrieved and given to the consultant, who will forward it to FHI.

3 Conclusions

3.1 These sociobehaviourual studies have not been fully analyzed, but they clearly show that sex workers, truckers and commercial fishermen constitute important high risk groups in Zambia, with large numbers of partners and limited condom use.

3.2 It would be helpful to complete the analyses in each socio-behavioural study and distill the collective programme implications of all the studies.

4 Interventions

4.1 Targeted high risk group interventions

4.1.1 Introduction

4.1.1.1 The consultant identified two targeted interventions focusing exclusively or overwhelmingly on high risk groups, one focusing on sex workers, the other focusing on truckers.

4.1.2 Tasintha's sex worker programme

4.1.2.1 Tasintha Programme (1996, 1997, 1998) is a non-profit organization, founded in April, 1992 by 39 people representing 11 women's and youth organizations, concerned about women and children in sex work, who faced the hazards of HIV, other reproductive tract infections, coercion and violence. Tasintha is a Nyanja word, meaning "deeper transformation" or "we have changed." Tasintha's primary goal is to equip sex workers with the confidence and vocational skills to enable them to support themselves outside sex work. Tasintha also seeks to discourage young women from entering sex work through community education, particularly in schools. In addition, Tasintha educates current sex workers to protect their health by using condoms and seeking prompt STD care. Tasintha s governed by a four person board, chaired by the founder and current Minister of Health, Professor Nkandu Luo. Other members include Reverend Bredt, Reverend Sakala and Ms Sule, an ILO officer. Tasintha has eight full time staff members, including a coordinator, an operations manager, an accountant, a nurse, a secretary, two maintenance officers and a driver. Tasintha operates from a large former factory, Plot

2716/1638 on Malambo Street, in Lusaka's industrial sites. It has two large open workshops, three closed workshops, outbuilding and several offices. Its premises, which belonged to PG and were purchased from the Zambia Privatization Agency for US$400,000, half of which has been paid for, include 2,200 square metres under roof and a further 5,000 square metres open land.

4.1.2.2 Tasintha operates primarily in Lusaka, but it has supported the World Vision trucker programme on the Kapiri-Mposhi - Nakonde route and it responds to requests for assistance outside Lusaka. It has provided services on several farms and mines outside Lusaka and in Kafue and Chirundu.

4.1.2.3 Tasintha's funding has historically come from several sources:

- UNDP: US$303,920, 1996-1998 for project management, capacity building and outreach work
- HIVOS (Humanistic Institute For Development Cooperation: a Dutch PVO): US$210,000, 1995 for capital and operating costs.
- Netherlands Embassy: US$30,000 in two grants, 1987 for business management training, research and outreach.
- UNICEF: US$ 15,000, furniture, equipment and six months salary worth.
- USAID: US$10,000 for skills training equipment.
- World Council of Churches: US$5,000 for administrative costs.
- Finnish Embassy: $4,000 in three grants for income generating activities and outreach.
- Christian Council of Zambia and Lutheran World Federation: US$2,500 for sex worker health services.
- WHO: US$2,500 for youth awareness work.
- South African Embassy: US$500 for drama group training.
- World Food Programme: food rations in 1993.

In addition, Tasintha has a nurse seconded by the Ministry of Health, worth US$800 annually. Tasintha also rents its warehouses and offices to South African, Zimbabwean and Zambian timber, paprika, milling, panelbeating and trading companies. If all tenants paid promptly, Tasintha would receive US$10,000 monthly, but it currently receives half this amount. It also receives an unspecified amount from the sale of products made by trainees.

4.1.2.4 Tasintha's rehabilitation programme provides adult literacy, children's pre-school education and self-confidence training to prepare participants for vocational training. Tasintha's vocational skills building programme includes the following activities: textile design, processing and printing; knitting, crocheting and embroidery; design, tailoring and sewing; producing building materials, including blocks, roof and floor tiles and flower pots; sisal weaving; baking and catering and bookkeeping. Through industrial placements Tasintha is also able to offer training in auto-mechanics and computers. Since 1992, Tasintha has trained 5,005 sex workers. Tasintha currently has 245 sex workers registered in its vocational skills programme and about 80 to 120 come daily to the centre. Daily

attendance is variable and generally lower than overall enrollment.

4.1.2.5 Tasintha's programme to discourage young women from entering sex work through community education focuses on children in school, school drop outs, street vendors, street children and orphans. There are no statistics for this programme.

4.1.2.6 Tasintha's outreach programme is spearheaded by 30 peer educators, who are former sex workers. They receive a nightly allowance of ZK20,000 when they visit sex work sites to educate sex workers about HIV and safe sex, to distribute condoms and to motivate sex workers to seek STD care. It operates in major thoroughfares, streets outside international hotels, bars in other hotels, taverns and nightclubs. It focuses particularly on major hot-spots, such as the Pamodzi, Ridgeway Holiday Inn and adjacent areas of Church Street, the Intercontinental, Barbeque in Makeni, Cockpit in Garden, MK Nightclub in Matero and Mikes Car Wash on Makeni Road. There are also no statistics available for this programme. Tasintha has a well kept clinic for sex workers at its Malambo Road headquarters. The clinic sees an average of two clients weekly and appears to offer syphilis screening, but not syndromic STD management.

4.1.2.7 Tasintha has not yet gathered behavioural, STD or HIV impact data.

4.1.2.8 Project coverage is hard to estimate. Tasintha estimated in 1996/97 that there are at least 4,000 sex workers in Zambia and their recent estimates suggest there may be this number in Lusaka alone. Other estimates suggest that Lusaka has 4,000 to 6,000 sex workers. Based on an estimate of 5,000 sex workers, Tasintha's rehabilitation programme may have registered 4.9% of Lusaka's sex worker and be in daily contact with 2% of Lusaka's sex workers. It is even harder to estimate coverage in Tasintha's outreach programme, because there are no programme statistics. However, programme activities have been curtailed because of funding shortages and outreach visits have been episodic. The consultant estimates that programme coverage may be between 10% and 20%, but this level could be rapidly increased, with further funding and technical support.

4.1.2.9 Any analysis of Tasintha must acknowledge its dedication to sex workers and the positive impact it has had on many sex workers' lives. Its large premises in Lusaka's industrial sites is also an important asset, as its impressive vocational equipment. Tasintha has experienced administrative and funding limitations in recent years and the expiry of the UNDP funding is of concern. However, Tasintha hope that HIVOS will resume funding deferred after delayed reporting. The HIVOS contribution would support the final payment for the property and operating costs including rehabilitation services. The rehabilitation services are greatly valued by their beneficiaries, but most beneficiaries appear to be older sex workers, which suggests that younger sex workers may be unwilling to abandon sex work for other income generating activities. Tasintha expressed a strong desire for funding and technical support for its outreach services.

Increased coverage and reinforcement through reexposure to education should be the primary goal. Tasintha should consider enumerating Lusaka's sex workers in order to plan services rationally and to develop a numerator to evaluate coverage. There is great scope to make the outreach more methodical. Systematic mapping of sex work sites, the zoning of Lusaka and the allocation of peer educators to zones near their residences may increase programme efficiency and coverage. It may also be possible to share outreach with community based organizations, particularly in the larger compounds. Peer educators are currently paid ZK20,000 per outreach activity, which is administratively complex and expensive, particularly if outreach is intensified. It may be simpler and more economical to agree a monthly set of activities and a fixed monthly allowance. Monitoring and record keeping appears to be limited and simple monitoring protocols and forms may assist Tasintha to improve documentation. The STD clinic is a valuable resource, which may presently be under-utilized. Tasintha's outreach programme should intensify efforts to motivate sex workers to utilize its services. In addition, syndromic STD management services should be strengthened to complement the syphilis screening service in place. In addition, behavioural and biomedical surveys could be considered to evaluate the impact of Tasintha's services.

4.1.3 World Vision Zambia's trucker intervention

4.1.3.1 World Vision International is a Christian organization with offices in over 90 countries worldwide. World Vision Zambia was established in 1981 and is currently supporting 110 projects in all nine provinces of Zambia. World Vision Zambia supports a large-scale health project, the Gwembe Integrated Development Project in Gwembe District, Southern Province. World Vision Zambia recently transferred another large scale health project, the South Samfya Integrated Health Project in Samfya District, Luapula Province, to the Ministry of Health (World Vision, 1996, 1998a, 1998b).

4.1.3.2 World Vision Zambia have well trained staff in their Zambia office, including their Africa Region Health Coordinator. Having successfully implemented a targeted trucker intervention on Tanzania's highways, World Vision Zambia sought funding in 1995 to extend the programme to Zambia's major truck routes. Zambia is a landlocked country with two inefficiently serviced railway lines and long distance trucking plays a critical part in the country's economy. However, its size means that truckers are away from home for long periods, placing them at high risk for HIV. The trucking industry has been hard hit by HIV. One of the largest trucking companies, Dar farms, has lost 39 out of 144 drivers in the last three years. They state that it takes at least three-year to train a driver for their large "man-train" trucks and they have noted a steep increase in accidents. World Vision originally wished to introduce the programme on all major Zambian highways, including the highways from Chirundu on the Zimbabwe border, through Lusaka and the Copperbelt to Kasambalesa on the Congo border, from Livingstone on the Zimbabwe border to Lusaka, from Kapiri-Mposhi to Nakonde on the Tanzania border, from Lusaka to Chipata on

the Malawi border and from Lusaka to Mongu in Western Zambia (World Vision, 1996, 1998a, 1998b).

4.1.3.3 In 1996, World Vision received US$230,000 from UNDP to implement part of the proposed programme, along the route from Kapiri-Mposhi to Nakonde on the Tanzania border, with an ancillary programme on the branch route from Mpika to Mpulungu harbour on Lake Tanganyika. The major towns on the Kapiri-Mposhi to Nakonde route are Kapiri-Mposhi, Mkushi, Serenje, Mpika, Chinsali, Isoka and Nakonde and the major towns on the branch route from Mpika to Mpulungu are Mpika, Kasama, Mbala and Mpulungu. The programme's goals are to: train sex worker and trucker peer educators; educate truckers and their partners to adopt safer sexual practices; to promote prompt STD care seeking behaviour among truckers and their partners and promote and distribute condoms to sex workers and truckers (World Vision, 1996, 1998a, 1998b).

4.1.3.4 The project headquarters are in Mpika, in the Ministry of Foreign Affairs offices. The project has a vehicle and four project staff, a project officer, a health behaviour officer, a secretary and a driver.

4.1.3.5 Based on 1995 census data, World Vision Zambia estimate that there are 1,015,973 people living along the highway corridors from Kapiri-Mposhi to Nakonde and from Mpika to Mpulungu. World Vision Zambia estimates that approximately 30 trucks use these highway corridors daily. They divided towns into high transmission areas, where 10 or more trucks stop nightly and medium transmission towns, where five to nine trucks stop nightly. The project held commitment-building seminars for 41 trucking executives and 109 community leaders in all 10 districts along the trucking route. To improve STD services, 20 clinical officers and nurses in health centres along the highways were trained in syndromic STD management and RPR reagents for 2,000 tests distributed to 10 centres. A total of 109 truckers were trained as peer educators. In 1998, the project was expanded to encompass communities and schools along trucking routes (World Vision, 1996, 1998a, 1998b).

4.1.3.6 Project output data are limited to materials and condoms distributed. In total, 15,000 English, Nyanja and Bemba posters and 360,000 condoms were distributed (World Vision, 1996, 1998a, 1998b)..

4.1.3.7 World Vision has not reported behavioural, STI or HIV impact data.

4.1.3.8 Regarding project coverage, World Vision was guided to work in an under-served area of Zambia, on the fourth largest trucker routes. Zambia has 1,500 registered trucks. The Chirundu to Lusaka and Lusaka to Copperbelt routes each have over 100 trucks daily, the Livingstone to Lusaka route has over 40 trucks daily and the Lusaka to Chipata, Lusaka to Mambwe and Mongu and Kapiri-Mposhi to Nakonde route each have 20 trucks daily. Based on these data, the estimated project coverage may be approximately 6%. Simply

expanding the project to either the Chirundu or Copperbelt routes would increase coverage to about 40% and expanding the project to both routes would increase coverage to about 75%.

4.1.3.9 Analysis of World Vision's trucker programme must acknowledge the organization's professional management competence and the demonstrable importance of trucker interventions in Zambia. However, the project appears to be operating on a route of secondary density, which limits its overall impact, a fact that World Vision is acutely aware of and keen to address. As stated above, simply focusing on either the Chirundu or Copperbelt routes would increase coverage several-fold. Both routes are also shorter and would be more economical to serve. It may also be more economical to concentrate resources on a few large highway towns, particularly if the average number of truckers per town is around 10. Border posts may represent a particular opportunity to concentrate, reaching large numbers of truckers, traders and sex workers in a few areas. In particular, targeting the Chirundu, Livingstone and Kasambalesa borders would reach a large number of truckers and sex workers. If a larger programme is possible, Chipata and Nakonde border posts could be included. In addition, monitoring, evaluation and documentation are limited and could be strengthened. Simple monitoring procedures and forms may assist World Vision to improve record keeping and documentation. The trucker peer education component appears to be better developed than the sex worker component. Tasintha may be advised to consolidate their Lusaka project and it is difficult for them to directly support activities in Northern Province. It may be advisable for Tasintha to train World Vision field staff to manage sex worker peer education activities and to provide episodic quality assurance. In future, World Vision may also consider investing in enhanced impact surveillance, using behavioural and biomedical surveys to evaluate the project's impact among truckers.

4.2 Integrated community interventions with high risk group component

4.2.1 Introduction

4.2.1.1 The consultant identified several integrated community interventions with high risk group components of varying intensity, in Lusaka, the Copperbelt, Nchelenge, Livingstone, Monze, the Gwembe Valley and one with national reach.

4.2.2 Lusaka

4.2.2.1 A set of projects coordinated by a Zambian NGO, the Human Resource Trust, began in 1992 with support from NORAD and later SAT and UNICEF, based on a coalition which compassed the University of Zambia, the Ministry of Health, the Lusaka Urban District Council and health centres in Lusaka. The partnership was formed in order to develop a peer education project to reduce HIV transmission in low-income communities of Lusaka, with a sub-component for sex workers (Human Resource Trust, 1995, 1996, 1997, 1997, 1998).

4.2.2.2 The first project began in 1993 in George, Lusaka's most densely populated low-income area. The project's components include: mapping and formative assessment, recruitment and , training of coordinators and peer educators, community outreach, condom distribution, STD care, women's support associations and care and support. From 1993 to 1997, the George peer education project has held 26,819 meetings, reached 276,449 men and 219,459 women (including repeat attenders and distributed 2,233,262 condoms (Human Resource Trust, 1995, 1996, 1997, 1997, 1998).

4.2.2.3 In 1994, the project was extended to the neighbouring low-income suburb of Matero in Lusaka North. From 1994 to 1997, the Matero project held 26,045 meetings, reached 219,853 men (including repeat attenders) and 246,345 women and distributed 955,113 condoms (Human Resource Trust, 1995, 1996, 1997, 1997, 1998).

4.2.2.4 In 1995, the George and Matero projects were expanded to Kanyama, a large, sprawling, low-income area in Lusaka South. From 1995 to 1997, the Kanyama peer education project held 6,065 meetings, reached 169,680 men and 146,632 women (including repeat attenders) and distributed 760,380 condoms (Human Resource Trust, 1995, 1996, 1997, 1997, 1998).

4.2.2.5 In 1997, the project was expanded to Chipata compound and in 1998 it will be expanded to Garden, Mutendere and Kalingalinga compounds.

4.2.2.6 Cumulatively, the George, Matero and Kanyama projects have held 58,929 meetings, reached 665,982 men and 612,436 women (including repeat attenders) and distributed 3,948,755 condoms. Annual funding averages US$90,000. Project unit costs average US$7.42 per meeting organized, US$0.38 per person reached and US$0.05 per condom distributed (Human Resource Trust, 1995, 1996, 1997, 1997, 1998).

4.2.2.7 The project's primary impact measure is antenatal RPR syphilis seropositivity. Syphilis seropositivity has declined sharply in all three project sites. Syphilis seropositivity fell by 77% in George, 47% in Matero and 78% in Kanyama. In addition, a quasi-experimental study compared syphilis trends in project sites with syphilis trends in sites without peer education projects. Declines were only observed in project sites (Human Resource Trust, 1995, 1996, 1997, 1997, 1998).

4.2.2.8 The project is currently completing coverage and behavioural impact surveys among different target groups and the general community in George, Matero and Kanyama.

4.2.2.9 The analysis begins with the observation that the project is well monitored and has achieved large scale and economical outputs, which are apparently related to STD declines. However, the project is perhaps primarily a peer education

project for low-income communities, as opposed to clearly defined high-risk groups, such as sex workers. The project has a partial focus on sex work, but also reports that the economic crisis and the perception that "bargirls" (sic) have HIV has reduced the occurrence of sex work in many low-income compounds, with sex workers apparently traveling to middle and upper income areas for clients. With this proviso, there may be scope for the Human Resource Trust to support and reinforce Tasintha's efforts in the compounds in which it operates. The Human Resource Trust manager expressed admiration for Tasintha's aims and willingness to support its efforts.

4.2.3 Copperbelt

4.2.3.1 The Copperbelt Health Education Project (CHEP) is the largest NGO on the Copperbelt and one of the largest Zambian NGOs. Founded in 1988, the Copperbelt Health Education Project's goals are: to promote knowledge and awareness of HIV and related infectious diseases; to equip people with the life skills to avert HIV/STD and TB infection; and to develop care and support systems for those infected. CHEP's outreach work focuses on out-of-school youth, school pupils, traditional healers, health workers, religious leaders and HIV-vulnerable groups. Its services encompass the major Copperbelt towns of Kitwe, Ndola, Mufulira, Luanshya, Chingola, Chililabombwe and Kalalushi. CHEP is managed by a Director, with three section heads, a finance manager, an office administrator and a project coordinator, supported by approximately 10 full-time staff and numerous part-time staff. CHEP's total 1996 budget was US$347,250, funded by NORAD, Christian AID, SAT and UNICEF. CHEP supports several peer education projects, particularly for women and youth. These projects include a sub-component for vulnerable groups, which the Copperbelt Health Education Project define to include sex workers, soldiers, street children, mishanga boys and prisoners. The Copperbelt Health Education Project has developed an innovative partnership with the Luanshya mines, formerly owned by ZCCM, now the Batani Group, to implement a peer education project among mineworkers, which includes an outreach component, with a sub-component for sex workers. The Copperbelt is historically a major focus for sex work in Zambia and the Copperbelt Health Education Project is an important potential partner for any AIDS programme on the Copperbelt. The Copperbelt is also closely linked to potential trucker and fishing community programmes, since the Copperbelt is a major transit point for both truckers and fish traders (Copperbelt Health Education Project, 1997)

4.2.4 Nchelenge

4.2.4.1 Nchelenge District is situated in the Luapula Province, on the shores of Lake Mweru, one of the most densely populated areas of Zambia outside the railway corridor. An integrated intervention with a targeted component has been developed by the Nchelenge Health District Task Force, supported by Population Concern International. Specific activities included AIDS education, STD symptom recognition and care seeking behaviour and condom social

marketing. Preliminary estimates suggest that approximately 200 fishermen and partners were reached. As part of its strategic planning process, the district conducted risk mapping and identified fishermen, fish traders and their sexual partners, including sex workers, priority groups. With Population Concern International's financial and technical support, the district has initiated prevention activities, focusing particularly on Kashikishi and Kilwa and Katabulwe islands. Kashikishi, which is situated six kilometres from Nchelenge Boma on Lake Mweru, is the nerve centre of the Mweru fisheries and the gateway to Kilwa and Katabulwe islands. The town's inhabitants are supported by fishing and trading. The town is a major trading centre, thronged by female vendors and mishanga (cigarette) boys, with numerous nightclubs, taverns and bottlestores. The district is linked by an excellent road to Mansa and through the Congo pedicle to Mufulira and the Copperbelt. The district has targeted fishermen, fish traders and sex workers in Kashikishi. It is working with a pastor on Kilwa island to promote safer sexual practices among fishermen, fish traders and their sexual partnersPSI Zambia have supported HIV prevention by appointing a social marketing coordinator in the district (Nchelenge District, 1998).

4.2.4.2 Coverage is currently low, even in Kashikishi and Kilwa, because activities are in their infancy. When one considers the other towns on or around Lake Mweru, including Mwansabombwe, the oldest and largest village in Sub-Saharan Africa, with a population approaching 100,000 and the lakeshore communities of Nchelenge, Ntoto, Munanga, Mukunta, Puta, Kabendwe, Abinala, Isenga and Lupiya, which span three districts, the coverage becomes fractional (Nchelenge District, 1998).

4.2.4.3 Fishermen, fish traders and their sexual partners, including sex workers, are clearly a top priority for targeted interventions.

4.2.4.4 Interventions could either be implemented through a PVO or NGO with a strong presence in the province or by expanding the promising district initiatives piloted with support from Population Concern International.

4.2.5 Livingstone

4.2.5.1 Livingstone, formerly Zambia's capital, is the eighth largest town in Zambia, with an estimated population of 103,000 people. It lies on the border with Zimbabwe and on the major rail and road between South Africa and Lusaka. It has the highest prevalence in Zambia and a conspicuous sex industry, focusing on tourists, truckers and cross border traders. It is the third busiest border post for truckers, after Chirundu and Kasambalesa.

4.2.5.2 Integrated community interventions with a targeted high risk group component have been coordinated by SEPO, which is a Lozi word meaning hope. SEPO is a community organization founded in close conjunction with the District Health Management Team, who provide its Chair and Deputy Chair. SEPO has three full-time staff members seconded by the Ministry of Health and three major

programmes, counseling, home care and AIDS prevention (SEPO, 1996, 1997).

4.2.5.3 Since 1996, SEPO's AIDS prevention programme has focused on peer education, for workplace employees, women and youth. The women's programme includes a sex worker sub-component, which works with sex workers at the border, around the hotels and in the major Maramba compound. Estimated number of sex workers reached is approximately 100 (SEPO, 1996, 1997).

4.2.5.4 In addition, as part of its strategic planning process, the Livingstone Health District Task Force, supported by Population Concern International, has prioritized interventions targeted high risk groups, including sex workers, truckers, mishanga (cigarette) boys and currency traders (SEPO, 1996, 1997).

4.2.6 Monze

4.2.6.1 Monze is an agricultural, trading, trucking and transport town, situated in Southern Province, on the main highway from Livingstone to Lusaka. Although catches are lower than in Luapula, distances to Lusaka are much shorter and Monze is a significant fish trading centre. The Monze District Hospital, a Catholic Mission Hospital, coordinates peer education projects for workplace employees, youth, women and fishermen. The women's project includes a sex worker sub-component, which focuses on taverns and truck stops in Monze. The fishing camp programme focuses on the Kafue river, particularly the Kafue Flats in Lochinvar National Park situated approximately 120 kilometres from Monze. These camps attract up to 1,000 itinerant fishermen, largely Lozi speaking, who erect squalid camps during fishing season. Because of their distance from Monze District Hospital on a poor road, the camps are visited erratically. From 1996 to 1997, the project reached approximately 35,000 people and distributed 50,000 condoms. Monze has also assisted the nearby Chikuni Catholic Mission hospital in rural Chikuni to develop an integrated AIDS prevention and care project, which, fittingly, in its deeply rural agrarian context, has less emphasis on high risk group activities (Monze District Hospital, 1996).

4.2.7 Gwembe Valley

4.2.7.1 Harvest Help Zambia is a Zambian NGO, situated in Munyama in Siavonga District in the arid, relatively remote Gwembe Valley, with an office in Siavonga Town, Siavonga District. Harvest Help Zambia is an integrated rural development NGO, with cooperative, agriculture, livestock, fishing, education and health programmes. Harvest Help Zambia receives institutional funding from Harvest Help UK, agriculture funding from CAFOD and DFID, agriculture funding from Miserior and AIDS funding from NORAD and SAT. Its AIDS budget is approximately US$60,000 annually (Harvest Help, 1996a, 1996b, 1997).

4.2.7.2 Siavonga is a tourist, cross border and fish trading town with approximately 20,000 inhabitants. It has a small, but conspicuous sex work industry, centered around the major hotels, the district guest houses, the taverns, the harbour and the markets. It is also the gateway to northern lake Kariba, from Hamatika to Hamatuba to the Khota Khota narrows, before Chipepo, the major harbour for central Lake Kariba and Sinazongwe, the major harbour for southern Lake Kariba. Approximately 30,000 people live in the fishing camps between Siavonga and Hamatuba. Unlike the Luapula's Bemba people, the Gwembe's valley Tonga people rely primarily on agriculture and livestock for a livelihood, but nonetheless numerous external fishermen and fish traders move to and from the lakeshore villages. Although catches are far lower than in Luapula (Kariba has fewer nutrients than the Luapula and most nutrient bearing rivers flow into the southern Zimbabwe shoreline), proximity to markets in Lusaka is excellent, particularly from Siavonga and Chipepo.

4.2.7.3 The AIDS programme, which is an integrated community programme initiated in 1995, with a sex worker and fisherman sub-component, has been implemented rapidly. The programme is divided into a Siavonga component and a lakeshore component. Both the Siavonga component and the lakeshore component are sub-divided into discrete, zones, based on size, population, distance and transport flows. These zones form the basis for subsequent recruitment and management of peer educators. Zonal management improves planning and resource allocation. There are a total of nine zones. Three are in Siavonga and six are along the lakeshore. In Siavonga, the zones are: Zone 1 - Siavonga town; Zone 2 - Siavonga fishing camps, west of the town; and Zone 3 - Mitchell Compound, east of the town, near the Zimbabwe border. Along the lakeshore, there are six zones: Zone 4 - Mpango, Hamatika and Gwena camps; Zone 5 - Munyama, Simunjalala island camps; Zone 6 - Chilundike camps; Zone 7 - Manchava and Lufua camps; Zone 8 - Henga, Kalezyi and Khole camps; and Zone 9 - Hamatuba and Khota Khota camps.

4.2.7.4 In Siavonga, 16 peer educators were recruited from each of the three zones described above to optimize coverage. Siavonga peer educators attend weekly five hour training sessions held at Harvest Help's Siavonga base. Peer educators also receive field training. Along the lakeshore, 33 peer educator have been recruited in numbers proportionate to the size and complexity of each of the six zones. Lakeshore peer educators twice a year as a whole group, attending three days of intensive training. They also attend monthly training activities facilitated by the coordinator in each of their zones.

4.2.7.5 Peer educators also help to form women's' neighbourhood solidarity and support associations. The project has assisted approximately 23 such associations. Each association has a membership of 6 to 10 single women, who elect their own chairwoman, treasurer and secretary and draft their own constitution. Associations provide health education, child care, home care during illness, financial support in emergencies and access to micro-credit.

4.2.7.6 A recent project report indicates that the programme has held 1,451 community

meetings, reached 76,180 people (39,338 women and 36,842 men), distributed 35,420 condoms and enrolled 12 home care patients (Harvest Help, 1997).

4.2.7.7 Project impact has been measured by tracking trends in STD presentations at the Siavonga District Hospital. STD presentations at the Siavonga District hospital diminished by 38% within the first year of the project. However, these apparent declines must be interpreted with caution, especially as the decline is based on small numbers (from 21 to 13 cases).

4.2.7.8 Project coverage may be assessed as follows. Since the project has an intensive focus on a relatively small area, coverage may be relatively high within the limited catchment area. The major constraints within the catchment area are twofold. First, the programme targets the entire community, which may somewhat reduce coverage among sex workers and fishermen. Second, the remote lakeshore villages can only be reached by boat, which is time consuming and prohibitively expensive. Nonetheless, the consultant estimates that the Siavonga urban programme may cover 60% of sex workers and the lakeshore programme may reach 65% of fishermen. Intensity and frequency of contact may be a greater challenge than coverage. If coverage is considered in relation to the entire Zambian Kariba lakeshore, it is far lower, because of the large unreached populations from Chipepo to Sinazongwe, and may be approximately 15% to 20%.

4.2.7.9 Population Services International/Society for Family Health do not have programmes specifically for high risk groups. However, they have targeted their Protector condom intensively in taverns, nightclubs, late night garages and other sites where sex work frequently occurs. They have also placed a salesman in Nchelenge District, where the District AIDS Task Force and PCI have supported activities targeting fishermen. For these reasons, their programmes partially target high risk groups.

E Summary of findings

1 There is a strong epidemiological rationale for targeting high risk groups. High risk groups contribute disproportionately to STD and HIV transmission. World Bank and other models suggest that targeted high risk group interventions are more effective and economical than comparable general population interventions. Thailand provides a compelling example of the impact that targeted high risk group interventions can have on STD and HIV rates nationwide. Above all, the models demonstrate that, even in a mature epidemic, high risk groups continue to contribute disproportionately to HIV transmission and consequently, targeted high risk group interventions remain significantly more effective and economical than general population interventions. This is not to assert that targeted high risk group interventions are the only strategies required, but they are a top priority component of an overall programme. In short, they are a *necessary*, but not *sufficient* part of an AIDS programme. The

CDC affirm this, stating that it is not possible to curb an HIV epidemic without effective targeted high risk group interventions.

2 Analysis of Zambia's sociocultural and epidemiological context further confirms the importance of targeted high risk group interventions. Male migrancy and mobility is extensive in Zambia's sparsely populated, highly urbanized, increasingly trade based, largely informal sector society. Reciprocally, female poverty compels many women to offer sex for survival. Very high HIV rates, ranging from 26% to 31%, are observed in border, trucking and trading towns, such as Livingstone, Chipata, Mongu and Kabwe. This picture is seen throughout the Southern African region, with exceptionally high HIV rates observed in border and trucking towns in Zimbabwe, Botswana, Mozambique, Namibia and South Africa. Zimbabwe provides the starkest data, with HIV rates ranging from 47% to 70% of antenatal women in the migrant, trucking and border towns of Beitbridge, Chiredzi, Masvingo, Rusape and Victoria Falls. These data underscore the urgent need to target mobile men and women in sex work.

3 It is certainly true that it is difficult to define all high risk group members, such as sex workers and mobile men. However, there are large numbers of identifiable sex workers and mobile men who are not currently served by targeted interventions. It is important to begin programmes for these identifiable groups urgently, while striving to better understand, define and reach less well defined groups.

4 There are little or no data on HIV prevalence or STD prevalence and etiology among high risk groups in Zambia. The data being gathered by Dr Matondo and colleagues in Lusaka and Dr Musonda and colleagues in the Copperbelt will fill a major gap. There have been several sociobehavioural studies of high risk groups, primarily sex workers and fishing communities. However, most of these studies have not been fully written up, or their programme implications distilled. It would be worth completing and analyzing the programme implications of these studies. Nonetheless, the available evidence confirms that groups such as sex workers, truckers and fishermen are sizable, vulnerable and reachable.

5 The Ministry of Health, the National AIDS programme and many other actors recognize the vulnerability of, and have developed interventions for, sex workers, truckers and commercial fishermen, These group represent a sound epidemiological choice and constitute a top prevention priority. There are, moreover, established interventions for these groups upon which one can build.

6 Intensified targeted high risk group interventions would require an increased supply of condoms. It is encouraging to note that there are a surplus of condoms available in both the public and social marketing sectors. DFID has approximately six million condoms in stock and another 18 million ordered. DFID anticipates supporting condoms under a sector wide support programme beyond 2000. SIDA has also procured condoms. Thus, condom supplies present

no obstacle to the expansion of targeted high risk group interventions. However, condom distribution monitoring is weak, a situation to which targeted projects may make a partial contribution by developing simple monitoring systems and reporting regularly to the Medical Stores.

7 There are admirable examples of targeted high risk group programmes or sub-components in Zambia. However, the overall reach and coverage of these programmes is limited. Most sex workers, truckers and fishermen in Zambia are not currently served by programmes. There are intensive sex work interventions in parts of Lusaka and the Copperbelt, but not elsewhere. Truckers on one route from Kapiri Mposhi to Nakonde are currently reached, but other truckers on far busier routes are not. Most fishing communities are also not reached by intensive programmes.

8 There are important opportunities to build on the targeted work begun by Tasintha, World Vision Zambia, other NGOs and some districts. However, further financial and technical support is required to enable these programmes to achieve greater results. There are important opportunities for improved planning, better resource utilization, more intensive outreach, stronger links to condom promotion and STD care and strengthened monitoring, evaluation and documentation. The documentation of many projects reviewed does not do justice to the work actually done. Intensive technical support by an organization with experience of targeted sex worker and trucker interventions, such as Family Health International, is strongly recommended.

9 Priority setting is of particular importance. Tasintha wish to strengthen their outreach work and with financial and technical support, could do so. With support, they could significantly increase their coverage and effectiveness. World Vision have proposed a national trucker programme, on all major highways. If sufficient financial and technical resources are available, this would be commendable. However, if sufficient resources are not available, World Vision Zambia could perhaps achieve 75% of the results for 30% of the cost by focusing on the Chirundu to Kasambalesa route. To extend the argument further, a programme focusing on the four border towns of Chirundu, Livingstone, Chipata and Kasambalesa could reach present a narrowly defined and manageable opportunity to economically reach large numbers of highly vulnerable men and women.

10 Much of this work has regional dimensions and opportunities. Zambian sex workers frequently seek clients in Victoria Falls and Kariba in Zimbabwe and are found in Francistown, Botswana. Luapula and Southern province fishermen travel to and trade with Congo and Zimbabwe, respectively. Above all, long distance truckers operate across borders throughout Southern Africa, with many traveling from Durban and Johannesburg through Zimbabwe and Zambia to the Congo, Malawi or Tanzania. South African railways maintain a permanent fleet of 500 trucks in Messina on the Zimbabwe border with Beitbridge, to ship goods from the Messina railhead to other Southern African countries. USAID

has supported trucker programmes in Zimbabwe and Tanzania and other agencies, including the South African government and AUSAID, are supporting trucker interventions in South Africa. USAID is currently seeking regional AIDS strategies. On 16 October, USAID personnel from South Africa, Zimbabwe, Zambia and Malawi met to explore, inter alia, regional cooperation. The meeting noted that: "There is significant commercial movement across all countries of the region. The transportation, particularly the trucking industry, has identified STDs and HIV/AIDS as a significant problem. The meeting recommended: "the development of regional implementation strategies to address trucking route cross border transmission." Regional policies and programmes which reduce the HIV vulnerability of long-distance truckers should be considered. For example, speeding up the processing of Customs papers and keeping borders open 24 hours for trucks would reduce HIV vulnerability. In South Africa, one Kwazulu-Natal company operating between Johannesburg and Durban makes drivers exchange trucks halfway. Both drivers return to their own homes each night.

F Recommendations

1 There is widespread agreement, shared by the Ministry of Health, the National AIDS Programme, academics, international agencies and NGOs, that targeted high risk group interventions merit intensified support in Zambia. It is clearly an opportune time to strengthen and extend such interventions. Accordingly, it is recommended that intensified targeted interventions be a top priority.

2 Provided it does not delay implementation of targeted interventions, it is recommended that existing sociobehavioural studies of high risk groups be completed, written up and analyzed for programme relevance. Data pending from biomedical surveys could be incorporated. Such a document would assist programme implementers to refine programme strategies and could lead to increased programme coverage and effectiveness. However, this recommendation is of lower priority than the intervention recommendations below and should not impede rapid intervention implementation.

3 It is recommended that high risk group contexts be divided into two categories. Areas with large numbers of high risk group members may be classified as high intensity. Areas with fewer high risk group members may be classified as lower intensity. The significance of this differentiation is as follows. It is not possible for integrated programmes to work intensively with large numbers of high risk group members. Equally, it is not possible to develop dedicated targeted interventions throughout Zambia. Thus, dedicated programmes must be confined to areas with large numbers of high risk group members and integrated programmes be strengthened to reach high risk group members in areas with lower numbers of high risk group members. In short, since it is not possible or desirable to develop dedicated high risk group programmes everywhere, criteria must be developed to determine where they should be introduced. In high

intensity high risk group areas, it is recommended that dedicated, centrally coordinated, targeted high risk group interventions be developed, perhaps by NGOs. In lower intensity high risk group areas, it is recommended that high risk group interventions be integrated into comprehensive services. This recommendation forms the basis for the following recommendations.

4 Examples of intensive high risk group contexts which merit dedicated targeted interventions include the major sex work areas in Lusaka and perhaps the Copperbelt, the major border towns and certainly, Chirundu, Livingstone, Chipata and Kasambalesa, the major trucking routes, particularly the primary route from Chirundu to Kasambalesa (The consultant is not sure whether other routes have sufficient trucking traffic to be classified as high intensity.) and the large, densely populated fishing and fish trading villages from Mwansabombwe to Lupiya.

5 Tasintha have established sex worker services in Lusaka and wish to intensify their outreach. They have the experience, contacts and skills to do so. They have had administrative challenges, which they have addressed internally and would require sustained administrative technical assistance. Effective financial and technical assistance, through Family Health International, would enable them to greatly increase programme efficiency and effectiveness. Tasintha could also coordinate with Human Resource Trust, whose community programmes would reinforce Tasintha's targeted efforts in compounds such as George, Matero, Kanyama, Chipata and Garden. Accordingly financial, administrative and technical support to Tasintha is recommended to enable them to intensify their targeting of sex workers in Lusaka. Sex workers may be identified at approximately 50 sites in Lusaka. Systematic snowbowling would identify many other sex workers.

6 Peer educator training should encompass an initial intensive course of approximately 10 days, followed by regular (weekly or monthly) training, planning and review meetings, with a strong emphasis on planning and monitoring.

7 World Vision have a track record in trucker interventions in Tanzania and Zambia and are seeking to expand their Zambian programme. It is recommended that the Chirundu to Kasambalesa route be supported as a top priority. World Vision are an established organization with sound administrative systems. Financial support is recommended, as is technical support from Family Health International, which the consultant believes would add significant value to the intervention. Under its AIDSTECH and AIDSCAP project, FHI have a decade of experience in the planning, managing and monitoring targetted high risk group projects and several of their partner projects have been cited as International best practice approaches. In particular, optimal resource utilization, by focusing on priority sites, monitoring, evaluation and documentation are areas where it is believed Family Health International's contribution would complement World Vision's undoubted strengths.

8 It is recommended that border posts, particularly Chirundu (During previous field work trips, the consultant has seen up to 300 trucks backed up in Churundu border, often waiting up to a week), Livingstone, Chipata and Kasambalesa, be intensively targeted. There are different programme options. Some or all of these towns could be targeted as part of the trucker programme recommended above. Alternatively, separate mechanisms could be developed to target the towns, particularly if they are not reached through the trucker programme. Both World Vision and PCI, who have experience with border activities through their district work in Livingstone and Nchelenge, have expressed interest in working in border towns. Whatever strategy is used, these border posts are an urgent priority.

9 An intervention targeting fishing communities on Lake Mweru in Luapula Province has long been a National AIDS Programme priority and it remains a top priority, strongly recommended. As in the case of the border post programme, there are different programme options. One alternative would be to identify an NGO to develop an intensive targeted intervention. This was the option originally preferred by the National AIDS Programme, which identified the Zambian Federation of Cooperatives to implement the programme. Unfortunately, this organization has dissolved. If there are NGOs with experience, capacity and interest in this area, this option could be considered. Another option would be to utilize the district systems to target these fishing communities. This would be consistent with Zambia's health reforms and could draw upon the successful fishing community collaboration of Nchelenge District AIDS Task Force and PCI. However, an intensive programme on Lake Mweru would be a large and demanding undertaking, with significant infrastructure, management and logistic challenges, which may be burdensome to a district which is confronting numerous other concurrent developments. Such a project would also cut across at least three district boundaries. Nonetheless, a targeted fishing community intervention in the Luapula-Mweru basin is a critical priority in an underserved and HIV vulnerable region of Zambia.

10 The following recommendation is adverted to above, but merits reiteration. Targeted high risk group interventions in Zambia require intensive technical support to improve resource utilization, coverage and frequency of exposure and monitoring, evaluation and overall programme documentation. Both qualitative and quantitative process indicators must be tracked. There are also no impact data to demonstrate the "real world benefits" of targeted high risk group interventions. Pre- and post-intervention KABP surveys would at least provide data on the intervention's coverage, impact upon risk perceptions and possible impact on sexual behaviour. The inclusion of comparison surveys in areas without interventions may further assist interpretation of results. Finally, it may be worth collecting a minimum of biomedical specimens, to complement the behavioural data. For example, repeated surveys of sex workers in Nairobi, Kenya, have shown sustained declines in STD infection among sex workers. The more easily eradicable STDs with low reproductive rates, like chancroid,

have almost disappeared, even among sex workers (Moses, e-mail interview). These encouraging data have played a major role in sustaining a high level of commitment to targeted high risk group interventions in Kenya. For example, anonymous, non-intrusive urine-based sample could be collected every six to 12 months, from random sub-sets of sex workers and truckers and tested by PCR/LCR for gonorrhoea and chlamydia. It must be emphasized that what is being recommended is not research, but the collection of a minimum set of anonymous, non-invasive anonymous specimens, to determine whether there are encouraging trends, which suggest that interventions are having an impact. Such data collection would require some additional funding and staff time, but the results would repay the effort, by motivating staff if there are encouraging trends and motivating re-focused and intensified approaches if there are not.

11 It is recommended that the regional dimensions and opportunities of the trucker intervention be actively explored. At a minimum, there could be programme exchanges with trucker interventions extant in Zimbabwe, Tanzania and South Africa. If it is possible to coordinate the interventions across border, this would be even better. For example, Zimbabwean organizations are managing or introducing targeted interventions in Chirundu and Victoria Falls, which offer opportunities for coordination. Finally, it may be possible to develop regional trucker policies and programmes through SADC, perhaps working with PVOs active throughout Southern Africa.

12 Sex workers, truckers and fishing communities are top priority high risk groups. In future, when large scale interventions for these groups are soundly established, it may be worth considering intensified interventions for what may be regarded as the next priority groups. These may include the uniformed services and migrant or seasonal agricultural workers, particularly on the large plantations, such as Nakambala Sugar Estates in Mazabuka, Southern Province and Mpongwe Development Corporation, in Mpongwe, rural Copperbelt Province. In Zimbabwe and South Africa, seasonal plantation workers have amongst the national highest HIV rates. Such programmes would also afford important inter-sectoral opportunities, with the uniformed services and the trans-national corporations who now own Nakambala and Mpongwe.

13 In summary, the consultant recommends the rapid intensification of targeted high risk group interventions among sex workers in Lusaka, sex workers and truckers at the busiest highways and border posts and fishing communities in the Luapula-Mweru basin, with intensive and sustained technical support from Family Health International, focusing on optimal planning and resource use, increased coverage and frequency of exposure and strengthened monitoring, evaluation and documentation.

G Persons interviewed

Ministry of Health/Central Board of Health

Dr Moses Sichone
Dr Patrick Ngosa
Ms Likwe

Cabinet Office Civil Service Reform Programme
Ms Violet Tembo

USAID
Mr Robert Clay
Dr Paul Zeitz
Mr Mark White

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Ms Jessica Price

Population Services International/Society for Family Health
Mr Chris Mkkuli

Population Council
Mr Kwame Asiedu

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Population Concern International (PCI)
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Ms Karen Romano

The Futures Group
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WHO
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Dr Ravinder Kathuria

Tasintha Programme
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Mr Eric Ngoma
Ms Mbita Musukuma
Ms Jackie Nyirenda
Five peer educators
11 rehabilitation beneficiaries

World Vision Zambia
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Mr John Mwale
Mr Cyrus Phiri

Human Resource Trust
Mr Noddy Chimuna

George Health Centre
Ms Margaret Simasiku

George peer education project
Ms Winnie Mpongu
Ms Ethel Sichongo
22 peer educators

Matero peer education project
Ms Faustina Kangwa
Ms Charity Wamundila
12 peer educators

Kanyama peer education project
Ms Chizinga Munga
Ms Grace Bwalya
15 peer educators

Chipata peer education project
Ms Jane Mwale
25 peer educators

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I Interview guide

Objectives

I To develop a detailed description of targeted high risk group interventions in Zambia and each of their sub-components

II To document and analyze the planning, management and monitoring systems used by targeted high risk group interventions in Zambia

III To distill key management principles for the effective implementation and management of targeted high risk group interventions in Zambia

IV To analyze project-target group dynamics and determine their relevance for targeted high risk group interventions in Zambia

V To review the impact of targeted projects on the health and lives of the target groups in Zambia

VI To gather illustrative examples, exemplifying key project developments, achievements, obstacles and lessons in Zambia

Overview

1 Situation assessment

2 Obtaining permission and support

3 Recruiting and selecting coordinators

4 Training coordinators

5 Recruiting and selecting peer educators

6 Training peer educators

7 Mapping sites

8 Recruiting peer educators from different areas or categories

9 Motivating peer educators

10 Follow-up and field support

11 Planning and conducting meetings

12 Educational approaches

13 Condom promotion and distribution

14 STD services

15 Participation in decisions

16 Monitoring and evaluation

17 Coverage

18 Value for resources and effort

1 Initial situation assessment

a How exactly were potential sites originally assessed and selected?

B Who was responsible for assessing and selecting potential sites?

C What considerations influenced the selection of potential sites

D How did the assessment of potential sites influence programme design and development?

E With experience and hindsight, how could the initial assessment of potential sites be improved?

F What interesting examples illustrate important principles in initial assessment of potential sites?

2 Obtaining permission and support

a	Who were the key gatekeepers for the projects and for individual sites within projects?
B	Were there any important differences between urban and rural sites?
C	How was permission and support obtained for each site?
D	How did this subsequently help each of the project's activities?
E	What problems were encountered in obtaining permission and support and how were they resolved?
F	What omissions or oversights were there and how did these create problems?
G	What interesting examples illustrate important principles in obtaining gatekeeper's permission and support?

3 Selecting coordinators

a What process was used to select the project coordinator(s) and assistant coordinator(s)?

b Who selected the coordinator(s) and assistant coordinator(s)?

c What positions and personal qualities were preferred and how were personal qualities assessed?

D Did experience subsequently show that the position and personal qualities preferred were appropriate?

E With experience and hindsight, how could the selection of coordinator(s) and assistant coordinator(s) have been improved?

F What interesting examples are there to illustrate important principles in selecting coordinators?

4 Training coordinators

a	When, where and how are coordinators trained?
B	Who trains coordinators?
C	How are the training needs of the coordinators assessed prior to training?
C	What comprises the coordinators' training?
D	What forms of training do coordinators most enjoy and why?
E	What are the biggest knowledge and skills deficits among coordinators and how are these reduced?
F	How are coordinators trained to manage and support their subordinates?
G	How is quality assurance provided in training and what quality assurance criteria are used?
H	How is training followed up and reinforced?
I	What interesting examples illustrate important principles in coordinators' training?

5 Recruiting and selecting peer educators

a How were peer educators initially approached and motivated to participate?

b Who recruited and selected them?

c What qualities were preferred for peer educators and how were these qualities assessed?

d Did experience subsequently show that these were the right qualities?

e With experience and hindsight, how could the selection of peer educators have been improved?

f What important advice can coordinators give regarding the selection of peer educators?

g What interesting examples illustrate important issues or principles in recruiting and selection of peer educators?

6 Training peer educators

a When, where and how are peer educators trained, both in the "lecture room" and subsequently in the field?

b Who trains peer educators?

c What exactly happens in the training of a typical peer educator?

d What forms of training do peer educators most enjoy and why?

e What are the biggest knowledge and skills deficits among peer educators and how are these reduced?

f How are peer educators trained to interact with their peers and helped to gain the confidence and ability to speak in public?

g How does the content of training change as peer educators gain knowledge and confidence?

h How is quality assurance provided in training and what criteria may be used to provide quality assurance?

i How is training followed-up and reinforced?

j What interesting examples are there to illustrate important principles in the training of peer educators?

7 Mapping project sites

a. Why is mapping and remapping necessary?

b. How exactly are project sites originally mapped?

c. How exactly are project sites mapped?

d. Who conducts mapping and remapping?

e. When exactly is mapping conducted? Why is it done?

f. How does the mapping of project sites influenced programme design and development?

g. With experience and hindsight, how could initial mapping of project sites be improved?

h. What maps, charts and graphs can be included to illustrate how and why one strategically recruits peer educators from different geographic areas and categories?

i. What interesting examples are there to illustrate important principles in mapping and remapping?

8 Recruiting peer educators from different areas or categories

a. How were potential catchment areas or categories sub-divided and how were peer educators strategically recruited from different geographic areas and from different categories?

b. If these sub-divisions were made, was it early in the project or later?

c. If they were made later, why did the staff to introduce these sub-divisions?

d. Did management structures and systems have to be changed to fit the sub-divisions and if so, how?

e. How did such strategic sub-divisions strengthen the project?

f. What omissions or weaknesses were there and what effects did they have?

g What interesting examples are there to illustrate important principles in reaching peer educators from different areas or categories?

9 Motivating peer educators

a What are the full range of material motivators that peer educators may obtain?

b What are full range of psychological and social motivators that peer educators may obtain?

c What motivators are most important and effective and why?

d What further motivators are needed and why?

e What are the potential risks associated with the use of each of the major kinds of motivators?

f How do coordinators and peer educators envisage the use of motivators developing over time?

g In what direction has the provision of material incentives, if these have been used, influenced commitment to voluntary work?

h What interesting examples are there to illustrate important principles regarding the use of either material or other motivators?

10 Follow up and field support

a When, where, how and by whom are coordinators and peer educators supervised and supported?

b What precise approaches are used to supervise and support peer educators during their fieldwork and which approaches work best and why?

c To what extent and in what ways does the follow-up and support provided at different tiers or levels differ?

d What project management mechanisms, methods, systems and procedures are needed to ensure close, consistent follow-up and field support?

e What difficulties have been encountered in providing follow-up and field support to coordinators and peer educators?

f What interesting examples are there to illustrate principles concerning follow-up and field support?

11 Planning and conducting meetings

a What are all the different types of community outreach activities that peer educators conduct?

b How are these activities planned and scheduled, where are they held, who typically attends and why?

c What groups and communities are especially difficult to reach, what strategies have been developed to reach them and how effective are these strategies?

d What types of educational activities seem particularly effective and why?

e What types of educational activities seem less effective and why?

f What programme management mechanisms, methods, systems and procedures are needed to plan and implement educational activities?

g What interesting examples illustrate important principles in planning and conducting AIDS education activities?

12 Educational approaches

a How do the peer educators typically approach people, both on a one-on-one basis and in groups? What do they say and do to be accepted and listened to? (Construct the sequence step by step.)

b What messages do peer educators find most effective and why?

c How are these and other messages in the project developed?

d Are messages varied for different audiences and if so, how and why? (Give as many examples and illustrations as possible.)

e Is there any mechanism for peer educators from different areas to share lessons regarding the effectiveness of different messages and if so, what is it?

f What interesting examples illustrate important principles in the development of education messages?

13 Condom promotion and distribution

a How are condom promotion and distribution strategies developed each programme?

b What management procedures exist to map out all the possible outlets or sources through which condoms should be promoted distributed?

c What management strategies exist to develop priorities for condom promotion and distribution and to ensure that promotion and distribution is matched to present and future supply?

d How, where, when and to whom are condoms distributed and why?

e What specific messages or arguments do peer educators use to persuade participants to use condoms?

f What are the most common questions, opinions and objections that the public express about condoms?

g What interesting examples illustrate important principles in condom promotion and distribution?

14 STD Services

a How exactly do projects strengthen or link up with STD services?

b How are community members motivated to seek prompt STD care?

c What exactly has been done to ensure high quality interpersonal and clinical care?

d What obstacles still remain and how may they be overcome?

e What interesting examples illustrate important principles regarding the relationship between targeted high risk group projects and STD services?

15 Participation in decisions

a How have the projects included peer educators and target communities in decision making?

b What committees, structures or forums are there for peer educators and target communities to participate in planning and decisions?

c What further structures are needed?

d What interesting examples illustrate important principles regarding peer educator participation in decision making?

16 Monitoring and evaluation

a How exactly are targeted high-risk group activities monitored?

b What forms are used to record names and locations of peer educators, educational meetings held, numbers of persons reached and condoms distributed?

c What overall management and monitoring systems are in place?

d What sample forms, charts and sheets as possible may be reviewed to illustrate the management systems in place?

e How do coverage and impact surveys feed into projects?

17 Coverage

a What forms, systems and procedures are in place to examine coverage levels in relation to separate geographic areas or sub-categories of the targeted high risk group interventions?

b Are coverage reviews systematic or largely intuitive, that is based on the project staff's personal feelings about coverage?

c How would the project staff like to see their systems for reviewing coverage improved?

e Has a concern for coverage led to any changes in the management systems and approaches, organization and planning of the high risk group interventions?

f What interesting examples illustrate important principles regarding the issue of coverage in high risk group projects?

18 Value for resources and effort

a Do the project staff review their expenditure to identify areas in which the the project can achieve greater value for money? One area is vehicle use. Have the programmes examined ways in which vehicle journeys could be planned in clusters to reduce time and distance traveled?

b Do the project staff and peer educators ever review the way they spend their time each day to identify ways in which they are using time inefficiently?

c Where project staff have identified inefficiently used time, what corrective steps have they taken? How successful have these corrective measures been?

J Abbreviations

CBOH:	Central Board Of Health
CIDA:	Canadian International Development Agency
FHI:	Family Health International
HHZ:	Harvest Help Zambia
HRT:	Human Resource Trust
HIVOS:	Humanistic Institute For Development Cooperation
JSI:	Johnsnow INC.
NORAD:	Norwegian Organization For Development Cooperation
PCI:	Population Concern International
SAT:	Southern Africa AIDS Training Programme
SFH:	Society For Family health
SIDA:	Swedish Agency For Development Cooperation